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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,623	05/15/2001	Stephen K. Vernon	15-0259	8013
7590 07/12/2005				
Christopher P. Harris Tarolli, Sundheim, Covell & Tummino LLP 526 Superior Avenue, Suite 1111 Cleveland, OH 44114-1400		EXAMINER FERRIS, DERRICK W		
		ART UNIT PAPER NUMBER 2663		

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,623

Applicant(s)

VERNON, STEPHEN K.

Examiner

Derrick W. Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,10,11,14-17 and 19-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,10,11,14-17,19-21,23,24,26,27,29 and 30 is/are rejected.
- 7) ☒ Claim(s) 22,25,28 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. This Office action is in response to applicant's paper filed 4/4/2005. **Claims 1, 3-7, 10-11, 14-17, and 19-31** as amended are still in consideration for this application. Applicant has amended claims 1, 3, 6, 10, 11, 16, and 17. Applicant has canceled claims 2, 8, 9, 12, 13, and 18. Applicant has added claims 19-31.
2. Examiner does **not withdraw** the claim objection(s). Applicant was non-responsive in addressing the above claim objection.
3. Examiner does **not withdraw** the anticipated rejection to ***Gracon***. The following comments fully address applicant's arguments with respect to the rejection. Applicant's arguments filed 4/4/2005 have been fully considered but they are not persuasive. In particular, the packet scheduler 106,122 acts as a latency processor as is known in the art. As such, see the clarified rejection below as necessitated by applicant's claim amendment. In particular, note that *both* the packet manager 104, 120 and packet scheduler 106, 122 contribute to the latency of a packet in a network device. In addition, the examiner disagrees with applicant's arguments concerning a low pass filter. In particular, the limitation is met since although *Gracon* teaches time scheduling packets by using a scheduler 106,122, all packets are also run through a congestion manager first which uses a low pass filter to calculate e.g., the average queue size before scheduling a packet (i.e., assuming the packet is not dropped), see e.g., paragraph 0045 on page 4. Thus the congestion manager contributes to the latency of handing a packet where the congestion manager uses a low pass filter. The output of the low pass filter variable controls the data rate since the output leads to the packet scheduler which time schedules the packet. Stated

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from a different perspective, with respect to applicant's figure 4, the computed data rate 126 is part of computing the TAT (i.e., the TAT is based on collected rate statistics 124), the low pass filter 128 is the low pass filter used for the leaky bucket for congestion control, and adjust delay if necessary 130 is the time packet scheduling based on the TAT. Thus the above limitation of using a low pass filter is met in the context of applicant's invention. Examiner would like to further point out that no detailed information was provided for *how* a low pass filter is used with respect to paragraphs 0032 and 0033 in applicant's specification. Instead, applicant only mentions that a low pass filter provides a very slow change to the configuration table so that the delay may be slowly adjusted over a long period of time. The packet scheduler of *Gracon* uses the TAT in determining in part when to time schedule a packet such that scheduled time is delayed by the congestion control over a long period of time.

4. Examiner does **not withdraw** the obviousness rejection to *Gracon* in view of *Bearden*. The following comments fully address applicant's arguments with respect to the rejection. See similar reasoning above with respect to the anticipated rejection.

Claim Objections

5. **Claim 16** is objected to because of the following informalities: please change "the" to "a" in line 6 with respect to the first occurrence of "the low pass filter" since "the" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1, 3-4, 11, 14, 19-21, and 26-27** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application 2002/0110134 A1 to *Gracon et al.* ("*Gracon*").

As to **claim 1**, see figure 1 where a "delay device" (i.e., delay processor) is traffic management system 100. In particular, note that ingress ports 108 and egress ports 128 such that the device is inserted in the middle of the network. As such, a packet handled by packet identifying information, e.g., a packet descriptor, where such packet identifying information identifies a packet stream. One example of a data stream is a virtual connection as taught by the reference. Since the traffic management system 100 switches the packets to a respective egress port, the system routes the data stream through the delay device. Each packet stream is delayed using various techniques such as scheduling. Hence the packet scheduler 206 uses predefined or configured rates in a table as part of congestion parameters, see e.g. page 2 paragraph 0028-0030. Examiner also notes that traffic policing 202 and the congestion manager 204 in addition to the traffic scheduler 206 also play a role in delaying the selected data by a fixed amount. In particular, packets are stored in buffers. The scheduler then schedules the packets based on a fixed amount of delay such that the scheduled packets control the data rate to increase the latency of the network. Specifically, the scheduler schedules the packets based on the TAT, see e.g., page 6, paragraph 0062.

As to **claim 3**, the fixed amount of delay e.g., is the TAT where the TAT is calculated based on predefined parameters stored in memory, see e.g., paragraph 0037 on

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page 3. As mentioned previously, the packet scheduler uses the TAT to schedule the packet.

As to **claim 4**, the reference inherently teaches changing the round trip latency since the packets are scheduled by a scheduler where the scheduler intentionally delays the packets which affects the round-trip latency of the packet(s).

As to **claim 11**, see similar rejection to claim 1. With respect to a low pass filter, see e.g., paragraph 0045 on page 4.

As to **claim 14**, see similar rejection to claim 4.

As to **claim 19**, packets are placed into queues based on flows and then serviced based on the flow. Thus the selected data is the packet descriptor information.

As to **claim 20**, the amount of delay is based on the TAT and TA.

As to **claim 21**, the user selects the policy rates which determines e.g., the TAT, see e.g., paragraph 0037 on page 3.

As to **claim 26**, see similar rejection to claim 19.

As to **claim 27**, see similar rejection to claim 20.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. **Claims 5-7, 10, 15-17, 23-24, and 29-30** are rejected under 35 U.S.C. 103(a) as being unpatentable over .S. Patent Application 2002/0110134 A1 to *Gracon et al.* ("*Gracon*") in view of U.S. Patent No. 6,732,168 B1 to *Bearden et al.* ("*Bearden*").

As such to **claim 5**, *Gracon* discloses a delay processor as traffic management system 100. Examiner also notes one could argue that *Gracon* also teaches a client processor as the packet ingress processor 102 and a server processor as packet egress processor 126. However, the rejection below also provides a different interpretation.

Gracon is silent or deficient to the further limitation wherein the network includes one client processor, at least one server processor, and at least one network router.

Bearden teaches the further recited limitation above at e.g., in figure 4. In particular, a client processor is shown as client station 409-1, a server processor is shown e.g., as service server 408-x (or another client processor 409-1) and a router is shown as part of the Internet cloud, see e.g., column 6, lines 1-25.

The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Gracon* by inserting the traffic management system into the Internet cloud 406.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the above limitation. In particular, the motivation for modifying the reference or to combine the reference teachings would be that QoS is performed in the Internet cloud or middle of the network. In particular, *Gracon* cures the above-cited deficiency by providing a motivation found at e.g., figure 4. Second, there would be a reasonable expectation of success since QoS includes traffic shaping and

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policing, see e.g., column 6, lines 1-24 of *Bearden*. Thus the references either in singular or in combination teach the above claim limitation(s).

As to **claim 6**, see similar rejection to claim 5. A first processor could be a client processor and a second processor could be a server processor as mentioned above.

As to **claim 7**, see similar rejection to claim 5.

As to **claim 10**, see similar rejection to claim 3.

As to **claim 15**, see similar rejection to claim 5.

As to **claim 16**, see combined similar rejections to claims 6 and 11.

As to **claim 17**, see similar rejection to claim 7.

As to **claim 23**, see similar rejection to claim 19.

As to **claim 24**, see similar rejection to claim 20.

As to **claim 29**, see similar rejection to claim 19.

As to **claim 30**, see similar rejection to claim 20.

Allowable Subject Matter

10. **Claims 22, 25, 28 and 31** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris
Examiner
Art Unit 2663


DWF


RICKY NGO
PRIMARY EXAMINER

7/19/05